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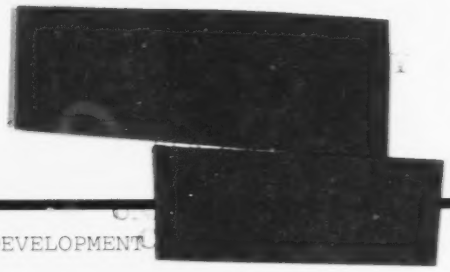

COMMISSION ON SUSTAINABLE DEVELOPMENT
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Overall progress achieved since the United Nations Conference on Environment and Development

Report of the Secretary-General

Addendum

Information for decision-making*

(Chapter 40 of Agenda 21)

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* The present report was prepared by the Department for Policy Coordination and Sustainable Development as task manager for chapter 40 of Agenda 21, in cooperation with UNEP as task manager for Earthwatch, in accordance with arrangements agreed to by the Inter-Agency Committee on Sustainable Development (IACSD). It is the result of consultation and information exchange between United Nations agencies, international and national organizations, interested government agencies and a range of other institutions, individuals and major group representatives.

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I. SELECTING KEY OBJECTIVES

1. The present report views progress made in the implementation of the objectives set out in chapter 40 of Agenda 21 (Information for Decision-Making),[1] taking into account the decisions taken by the Commission on Sustainable Development on this subject in the years 1994, 1995 and 1996 at its second, third and fourth sessions respectively.

2. Chapter 40 of Agenda 21 is concerned with improving the content, format and accessibility of information for decision makers at all levels, from the national and international levels to those of grass roots and individuals. This, in turn, requires a continuing emphasis on developing the capabilities to collect, analyse, apply and disseminate data at national and local levels.

3. Scientific, technological, economic, social and cultural information is a fundamental factor in implementing the principles of Agenda 21. The management and use of this information require specialized infrastructures, skills and know-how. Preparing, organizing and delivering information to decision makers on environmental and developmental concerns in a way that can generate the political commitment on their part to respond to those concerns are of paramount importance.

4. The commitment to implementing chapter 40 has been high at national, regional and international levels, as illustrated by the decisions taken by the Commission on Sustainable Development at its third and fourth sessions. Decision makers seek reliable and relevant information and have generally supported programmes for the collection and analysis of information, within available resources. This process is inherently participatory in both the gathering and the use of data, particularly as information is increasingly stored and transmitted electronically. Consequently, the focus on improved and accessible information has prompted the involvement of non-governmental organizations and other major groups at all levels. Finally, the United Nations system, seeking to rationalize and share its many databases, has undertaken a number of activities that respond to this chapter.

5. Two programme areas that require implementation are identified by chapter 40: (a) bridging the data gap and (b) improving the availability of information. As the General Assembly reviews the implementation of Agenda 21 in 1997, these remain the two primary objectives .

6. Note on the structure of the report: It is difficult to draw a clear line between "success", "promising changes" and "unfulfilled expectations". Many objectives will, in fact, fall into all three categories. Success may be noticeable but far from complete or universal. Progress may be marked but may fall short of the target. Efforts may be slow, owing to infrastructure and resources constraints, so that expectations remain unfulfilled, but it would be wrong to assume that nothing has been or is being done. Overall, it is important to note that real progress has been made in the implementation of chapter 40, owing to the initiative and hard work of national Governments, a multitude of non-governmental actors, and the international community, often working in concert.

II. REPORTING AND ANALYSING SUCCESS

Bridging the data gap

7. Indicators provide a major instrument for assisting decision makers in understanding problems, trends and the effectiveness of policies and actions. They also help to identify what data are needed at each level, whether international, regional, national or subnational levels, and to establish both a conceptual and an institutional framework for collecting, analysing and reporting those data. Nowhere is progress more evident in the implementation of chapter 40 of Agenda 21 than in the development of indicators of sustainable development. At the international level, on the basis of a programme of work and implementation plan adopted by the Commission on Sustainable Development, a collaborative effort among a large number of United Nations system, intergovernmental and non-governmental organizations has led to the adoption and preparation of methodologies for a preliminary consensus list of 134 indicators useful in helping countries measure sustainable development, from which countries may choose in a manner consistent with their needs. Approximately 30 countries, in all regions of the world, have programmes to develop indicators of sustainable development as a means to organize information at the national level for decision-making (see box 1). Prior to the 1992 Rio Conference, only a handful of countries had initiated any work in this area. Twelve countries from all regions of the world have now confirmed their intent to test the indicators on behalf of the Commission on Sustainable Development. Recent expert meetings in Geneva (organized by the United Nations) and Ghent, Belgium (organized by the Governments of Belgium and Costa Rica), have initiated the testing process through consultations with the countries concerned and adoption of common Guidelines for National Testing. Regional meetings to continue this process and to provide training in the use of the indicator methodologies have also begun. At the same time, work is progressing in various sectors to develop more detailed sectoral indicators of sustainability, and in the scientific community to integrate the economic, social, environmental and institutional dimensions in more aggregated measures.

8. Agenda 21 noted, in particular, three kinds of data gaps: (1) gaps in the kinds of data being collected; (2) gaps between developed and developing countries; and (3) gaps among geographical levels, that is, international, regional, national and subnational. All three of these gaps have narrowed to varying degrees, but success is still limited and requires a greater push and increased commitment of resources.

9. Most of the data gaps identified in chapter 40, involving urban air, freshwater, land resources, desertification, soil degradation, biodiversity, high seas and upper atmosphere, demographic factors, urbanization, poverty, health, rights of access to resources, and information on a range of major groups, have been inventoried at the international and regional levels and considerable progress has been made in filling gaps, through initiatives of the United Nations system, other intergovernmental organizations and non-governmental organizations (see box 2). This effort has been aided by the strengthening of the United Nations system-wide Earthwatch, the increase in the number of new treaty regimes of significance to sustainable development, most of which have a mandate to establish related databases, and the convening of five

Box 1. Indicators of sustainable development

In Japan, the "Basic Environment Plan" mandates the Government to carry out studies and develop comprehensive indicators that measure progress towards the Plan's objectives and provide a basis for follow-up to and revision of the Plan. In November 1995, an expert study group was organized by the Environment Agency to elaborate the concept, develop the framework and review options of indicators, drawing upon the work of the Commission on Sustainable Development, the Organisation for Economic Cooperation and Development (OECD) and other international and national activities.

In Mexico, the design of indicators of sustainable development is currently a high priority for the national agencies directly involved in the collection and production of information on environment and natural resources. Work that began as the production of environmental statistics has recently expanded to encompass indicators of sustainable development as a result first of the Rio Conference and later of both the North American Free Trade Agreement (NAFTA) and Mexico's membership in OECD.

Morocco, as part of its June 1995 strategy of social development, and a more recent National Strategy on Development issued by the Ministry of the Environment, has elaborated a core set of indicators of sustainable development that are related to the work of the Commission on Sustainable Development.

In Nigeria, progress towards sustainable development indicators has moved forward with the recent preparation of National Sustainable Development Strategies. An interdisciplinary team of experts is being organized to review and harmonize available indicators in order to ensure the Strategies' effectiveness.

Box 2. Environmental Database of the Office of the United Nations High Commissioner for Refugees (UNHCR)

To access information vital to the planning and management of sustainable refugee camps and settlements, UNHCR's Environmental Database uses geographical information systems as well as the Global Positioning System and satellite images to collect and analyse relevant environmental data. The database allows environmental integration during various phases of refugee assistance operations by producing environmental maps indicating priority zones for site planning.

major conferences that followed Rio: the Barbados Global Conference on Small Island Developing States, the Copenhagen World Summit for Social Development, the Cairo Conference on Population and Development, the Beijing Fourth World Conference on Women, and the Istanbul United Nations Conference on Human Settlement (Habitat II). The methodology sheets prepared on indicators of sustainable development should also help to focus national attention on improving the availability of data.

10. In addition, in recent meetings organized by the United Nations Environment Programme (UNEP) and the Department for Policy Coordination on Sustainable Development of the United Nations Secretariat, the major providers and users of data for international assessments and reports on environment and development have agreed on common efforts to identify core data sets and make them more available. In identifying over 50 core data variables for which related data must ultimately be collected and put into standard formats, significant gaps were also noted, and programmes of work proposed for filling the gaps in coordination with the work on indicators of sustainable development.

III. PROMISING CHANGES

Bridging the data gap

11. Less but significant progress has been made at national and subnational levels in this regard. A growing number of countries are carrying out national inventories and organizing the collection of needed data. Several factors account for this trend, including the rapid growth of national and subnational sustainable development strategies, plans and targets; adoption of national and local indicators; ratification of relevant international treaties; and, in some cases, support from the international community to the requisite capacity-building for these activities. Of particular note is the Sustainable Development Networking Programme (SDNP) of the United Nations Development Programme (UNDP) that supports national efforts to bring together users and producers of information at the national level for the purpose of improving data collection, accessibility and analysis through both dialogue and electronic communication. To date (28 June 1996), SDNP is operational in 26 countries and funds have been approved for 11 more. In addition, feasibility studies have been completed or are under way in another 30 countries. Another example is CC:INFO/Web, an initiative of the secretariat of the United Nations Framework Convention on Climate Change,[2] which is intended to facilitate the development of national Climate Convention Web sites and assist the countries in exchanging relevant information on national, regional and international levels.

12. At the same time, progress is neither uniform nor universal. Good and comparable data are still lacking in many countries in a number of key areas, and this problem must be confronted squarely. Where decision makers continue to rely on outdated, erroneous or invented data, their decisions and policies are unlikely to achieve the intended results. To address the issue of the lack of the critical long-term data necessary to understand global environmental problems, international organizations and the scientific community have designed observing systems to make data collection more coherent and cost-effective. Close collaboration has been established among the co-sponsors, both

intergovernmental and non-governmental, of the Global Climate Observing System (GCOS), the Global Ocean Observing System (GOOS) and the Global Terrestrial Observing System (GTOS), and between these and other operational observing activities such as the World Weather Watch and Global Atmosphere Watch (GAW).

Improving the availability of information

13. Great strides have been made, independently of Agenda 21, in terms of the availability of information, as a result of rapid and revolutionary technological changes in computing and telecommunications. The growth of the Internet and of the number of users with access to it has occurred spontaneously. Demand rises with supply and exerts a continuous pressure towards constant technological innovation. At the same time, both markets and competition have expanded sufficiently to lower prices, leading to even greater market demand and expansion. This technology supports and facilitates efforts at decentralization, subsidiarity, participation and empowerment.

14. However, two critical elements have not emerged so spontaneously: the first is the organization of quality information so as to make it accessible in a manner useful to policy makers; and the second is the differential impact of these changes on countries at various levels of development.

15. At the international level, several activities have taken place since 1992 to improve both coherence among and accessibility to data related to sustainable development. This is reflected in part by the growing number of sites on the World Wide Web. Almost all of the organizations in the United Nations system now maintain their own home page, and the United Nations system-wide Earthwatch has a Web site that includes a description of relevant information sources and activities at the international level. The Commission on Sustainable Development, at its fourth session, endorsed the recommendations of an inter-agency meeting to improve electronic access to information on sustainable development.[3] In addition, the work that is being undertaken by UNEP and the Department for Policy Coordination on Sustainable Development on common core data sets is also directed towards harmonization of data and improved access. Such a goal is also pursued by the CC:INFO/Web initiative through the promotion of common standards and formats for national Climate Convention Web sites. Similarly, the efforts of the Department for Economic and Social Information and Policy Analysis of the United Nations Secretariat to develop a coordinated and consistent methodological approach to statistical data collection across the United Nations system should contribute to more standardized access. A growing number of international non-governmental organizations are also active in using the Internet for organizing and making accessible information related to various aspects of sustainable development, such as the Consortium of the International Earth Science Information Network (CIESIN) and the International Institute for Sustainable Development (IISD) in the area of indicators.

16. The situation at the national and subnational levels in developed countries is similarly advanced, through the combined efforts of Governments, non-governmental organizations and the private sector. The situation in developing countries is less advanced but is progressing nonetheless, with contributions from both Governments and non-governmental organizations, as well as quasi-public institutions and research centres. The Sustainable Development

Networking Programme has assisted this process substantially with technical and financial support (see box 3).

17. Overall, the growing political awareness of the importance of information, the globalization of information content and accessibility, technological changes in the areas both of telecommunications and of information technologies, social trends such as public participation and popular demand for information, and support from major groups, the United Nations system, and other intergovernmental and international organizations have all had an impact on the phenomenal progress made in the area of the accessibility of information through electronic means. Principal bottlenecks in making productive use of this progress involve harmonized access and adequate, explicit quality control of available information, and limited access in developing countries, in particular the least developed countries.

Box 3. China's Sustainable Development Networking Programme

China's Sustainable Development Networking Programme (CSDNP) has been developed in accordance with the SDNP and is tailored to meet China's particular needs. Its goal is the creation of an enabling environment for sustainable development by facilitating access to information and encouraging consultative processes at all levels. Technical training on network use and management, databases and other skills is also an integral part of this programme. A Local Area Network will be completed by the end of 1996.

Source: Report on "Progress on China's Agenda 21" (Administrative Centre for China's Agenda 21, May 1996).

IV. UNFULFILLED EXPECTATIONS

Bridging the data gap

18. As noted, progress on bridging the data gap has been mixed. Work has gone ahead on indicators and on designing observing systems to fill critical data gaps, but the resources to implement the programmes have been limited. As a result, the continuing improvements in technologies for data collection have not been matched by improvements in the actual data collection and analysis necessary to guide progress towards sustainability. There has even been a reduction in some data-collection programmes where time-series data to determine trends are critical, and a trend towards commercialization in others, reducing the information available for public decision-making and research. The lack of data is particularly noticeable in developing countries. For example, there are satellites that continuously observe the earth's surface, but the images for developing countries are usually not recorded because there are no buyers or users. There is too often an assumption that adequate data are available and

just need to be used more effectively, when, in fact, there may be excess information in some areas, and little or none in others.

19. In addition, the success of many (though by no means all) of the data-related activities depends upon good and financially accessible telecommunications infrastructure. Far too little has been done to date to make national telecommunications systems responsive to the growing demand for electronic information. This is particularly true in some developing countries, where the lack of adequate telephone systems is hindering access to the new electronic networks.

Improving the availability of data

20. The lack of "interoperability", that is, harmonization of methods, definitions, formats and quality control that permits data integration, remains a major constraint to accessing usable data (see box 4). The cost to information users is high, as errors must be corrected in order to make data sets interoperable. This is significant both within and between countries, since transboundary databases require that data be interoperable among countries on specific issues or in specific areas, such as land-use classification.

Box 4. Obstacles to database integration

At present, in most countries, information technology is advancing at a rapid rate, but the direction of development is sometimes uncoordinated, with the result that data collected for one activity cannot be used in conjunction with other data. Each source institution follows its own set of procedures, rules and standards for data production, and differences in data specifications are generally so great that integration is impossible without extensive corrections or adjustments. Moreover, the cost of these adjustments is often so high that they constitute a major disincentive to the use of the information. Databases that are structured differently cannot be integrated. Furthermore, the use of different classification schemes and terminology to designate the same entities also blocks integration.

21. The solution is to encourage the community of information users and producers to agree on policy that will guide the development of information technology, particularly at the national level. This is likely to require agreements between various institutions implementing sustainable development programmes. These agreements should address issues of data standards, accessibility, costing, ownership and so forth, so as to ensure that data sets from multiple sectors can be compared, analysed and combined for the purpose of planning and monitoring sustainable development.

V. EMERGING PRIORITIES

22. In addition to the issues emphasized earlier, that is, filling major data gaps at national and subnational levels and ensuring interoperability among data sets, more progress is required to distil the critical information needed by decision makers and to deliver it to them in formats that they can understand (see box 5). This is particularly true of the many interacting elements that determine sustainability, for which adequate decision-support tools and integrated indicators have yet to be developed. The ongoing work on modelling and scenario-building constitutes an effort in this direction. A key aspect here is building regional capacity for integrated assessments in support of sustainable development policies. Part of this process encompasses the rapidly expanding demand for indicators of many types - indicators to measure performance under international agreements, to improve management in various sectors, and to assist decision-making and public awareness at the local, national, regional and international levels. The challenge, at a time of intense creativity in indicator development, will be to maintain sufficient exchange of experience between all those involved at many levels and in different sectors, so that the process converges by the year 2000 on efficient and effective sets of indicators for each purpose.

Box 5. Information needs of decision makers

In general, decision makers need information that is accurate, integrated, succinct and representative, and that allows some play for alternative scenarios and customizing for national or local conditions. Indicators should assist in this process. There needs to be up-to-date information on the current situation, georeferencing, and some way of anticipating what the future may hold through modelling, projections and scenarios, leading to policy options and their implications.

23. Another major area to be addressed is increasing private sector involvement in assessment and reporting. The role of multinational corporations and small- and medium-sized enterprises in development and natural resources management is expanding, and they need to become involved in the data collection and reporting related to their activities. Such reporting is in their collective interest, as only the availability of complete and objective information will ensure sound management decisions and a stable and predictable environment for their business activities. In addition, even traditional areas for government involvement, such as research and data collection, are being privatized in some countries.

24. Bridging the data gap will require a strategy of more widespread participation in data collection and assessment, bringing together Governments, scientists, non-governmental organizations, the private sector (including industry), local authorities, and even the general public in coherent efforts to document key issues and trends as a basis for management decisions at the local,

national, regional and global levels. This implies a broadening of the basis for action on information for decision-making as outlined in Agenda 21.

Notes

[1] Report of the United Nations Conference on Environment and Development, vol. I, Resolutions Adopted by the Conference (United Nations publication, Sales No. E.93.I.8 and corrigendum), resolution 1, annex II.

[2] A/AC.237/18 (Part II)/Add.1 and Corr.1, annex I.

[3] See Official Records of the Economic and Social Council, 1996, Supplement No. 8 (E/1996/28), chap. I, sect. C, decision 4/5.